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10/577,143	04/26/2006	Shigeo Nonoyama	286090US26PCT	4073	
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			FLYNN, KEVIN H		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Application No. Applicant(s) 10/577,143 NONOYAMA ET AL. Office Action Summary Examiner Art Unit KEVIN FLYNN 3628 -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --Period for Reply A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS. WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION. Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication. If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b). Status 1) Responsive to communication(s) filed on 13 April 2009. 2a) This action is FINAL. 2b) This action is non-final. 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11, 453 O.G. 213. Disposition of Claims 4) Claim(s) 1-20 is/are pending in the application. 4a) Of the above claim(s) _____ is/are withdrawn from consideration. 5) Claim(s) _____ is/are allowed. 6) Claim(s) 1-20 is/are rejected. 7) Claim(s) _____ is/are objected to. 8) Claim(s) _____ are subject to restriction and/or election requirement. Application Papers 9) The specification is objected to by the Examiner. 10) The drawing(s) filed on is/are; a) accepted or b) objected to by the Examiner. Applicant may not request that any objection to the drawing(s) be held in abevance. See 37 CFR 1.85(a). Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d). 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152. Priority under 35 U.S.C. § 119 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f). a) All b) Some * c) None of: Certified copies of the priority documents have been received. 2. Certified copies of the priority documents have been received in Application No. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)). * See the attached detailed Office action for a list of the certified copies not received.

1) Notice of References Cited (PTO-892)

Notice of Draftsperson's Patent Drawing Review (PTO-948)

Information Disclosure Statement(s) (FTO/S5/0E)
 Paper No(s)/Mail Date _______.

Attachment(s)

Interview Summary (PTO-413)
 Paper No(s)/Mail Date. _____.

6) Other:

5) Notice of Informal Patent Application

Art Unit: 3628

DETAILED ACTION

Status of Claims

This action is in reply to the response filed on 13 April 2009.

Claims 1-20 have been amended.

3. Claims 1-20 are currently pending and have been examined.

Response to Arguments

- 4. Regarding the previous 35 USC § 112, 2nd paragraph rejections, Applicant has indicated in portions of the claims that pre-installation estimation is the purpose of the invention. However, claims 1 and 11 still include "before introducing" language which is unclear how it is to be reconciled with the newly added installation language (i.e. is introducing the same as installation of the cogeneration system, or is introducing merely the use of an existing cogeneration system). Accordingly, the rejection of claims 1, and 11 is maintained, but the rejection of claims 6 and 16 is rescinded.
- 5. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).
- 6. In particular, Pak-Wah Or is directed towards measuring energy consumption of a facility, and suggesting new, energy saving equipment installation at the facility. Although, Pak-Wah Or is not specifically directed towards cogeneration savings, Johnson discloses that cogeneration systems were old and well known in the art as an energy savings means for a facility. Furthermore, Pak-Wah Or discloses measuring energy consumption, but does not specifically disclose the manner of measurement/transmission, which is supplied by the additional references.

Art Unit: 3628

Specifically, Pak-Wah Or discloses in ¶ 0016 measuring energy consumption and determining
possible improvements. In particular, Pak-Wah Or discloses in ¶ 0020 displaying "the cost
savings and energy efficiency that could be achieved by installing" energy saving equipment.

- 8. In addition, Ishimaru col. 2, line 45-col. 4, line 4; col. 9, lines 30-42, discloses that cost savings of using a cogenerator concerning electricity and gas usage were old and well known to one of ordinary skill in the art at the time of the invention. Furthermore, Fukushima, in ¶ 0028 discloses calculating and displaying the energy savings of the installation of energy-saving equipment (Examiner notes that while Fukushima uses prior facility data for the estimation, the references must be looked at as a whole, and Pak-Wah Or in ¶ 0016 uses existing facility data for its estimation). Finally, Johnson, in at least p. 207, ¶ 1, discloses that it was old and well known in the art to compare the cost of installing a cogenerator versus purchasing all power from a utility.
- 9. In addition, see updated rejection below.

Claim Rejections - 35 USC § 112

- 10. The following is a quotation of the second paragraph of 35 U.S.C. 112:
 - The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
- 11. Claims 1 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
- 12. Claims 1 and 11 are rejected as indefinite. The limitation(s) "before introducing cogeneration" is indefinite because it is unclear whether "introducing" entails installation and use of a cogeneration system or mere use of an existing cogeneration system at a certain point in time. For the purpose of this examination, both interpretations shall be considered.

Art Unit: 3628

Claim Rejections - 35 USC § 103

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness

rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be

patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said

subject matter pertains. Patentability shall not be negatived by the manner in which the invention

14.

was made.

Claims 1-2, 6-7, 11-12, 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Pak-Wah Or et al. (U.S. 2002/0178047) in view of Ishimaru et al. (U.S. 5,432,710) in view of in

view of Fukushima et al. (US 2002/0035496 A1) in view of Johnson et al. (Johnson, Richard A.

and Remer, Donald S.; Economics for Small Scale Package Cogeneration: A Case Study; The

Engineering Economist; Vol. 34 - No. 3, Spring 1989, p. 205-253).

Examiner's Note: The Examiner has pointed out particular references contained in the prior art of record

within the body of this action for the convenience of the Applicant. Although the specified citations are

representative of the teachings in the art and are applied to the specific limitations within the individual

claim, other passages and figures may apply. Applicant, in preparing the response, should consider fully

the entire reference as potentially teaching all or part of the claimed invention, as well as the context of

the passage as taught by the prior art or disclosed by the Examiner.

Claim 1:

Pak-Wah Oh, as shown discloses the following limitations:

transmitting measured data of the power consumption volume and the gas consumption volume

by a transmitter provided in the facility (Pak-Wah Or ¶ 0016),

receiving the data transmitted from the transmitter by a receiver (Pak-Wah Or ¶ 0016).

Art Unit: 3628

determining whether to install the cogeneration system based on the estimated cost of power and
gas consumption for the situation after installing the cogeneration system (Pak-Wah Or ¶¶ 0020-

0022 disclosing indicating cost savings and a recommendation for energy saving installation).

Regarding the limitations:

measuring power consumption volume before introducing a cogeneration system in a facility by a
wattmeter.

measuring gas consumption volume before introducing a cogeneration system in the facility by a

gas meter,

Pak-Wah Or, in at least ¶ 0016, discloses analyzing energy consumption of a present facility before the introduction of energy saving equipment, but does not specifically disclose a wattmeter or gas meter. However, Ishimaru, in at least col. 8, lines 11-13 discloses a wattmeter, and col. 8, lines 19-21 discloses a gas meter. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method of measuring energy usage with the technique of using wattmeters and gas meters

Regarding the limitation:

in order to receive the specific energy readings needed.

estimating a cost of power and gas consumption for a situation after installing the cogeneration

system in the facility by an estimation means from the received data at the receiver.

Pak-Wah Or, in at least ¶ 0020 discloses the system may "indicate the cost savings and energy efficiency that could be achieved by installing" energy saving equipment, but does not specifically disclose that cogeneration equipment is the energy saving equipment. However, Ishimaru, in at least col. 2, line 45-col. 4, line 4; col. 9, lines 30-42, disclose cost savings of using a cogenerator concerning electricity and gas usage. In addition, Fukushima, in at least ¶ 0028 discloses determining a running cost of energy-saving utilities (Examiner notes that while Fukushima uses the method of comparing a proposed facility to existing facilities, Pak-Wah Or in ¶ 0016 discloses using the present consumption of the facility to determine cost savings). Moreover, Johnson, in at least p. 207, ¶ 1, discloses comparing the cost of installing a cogenerator versus purchasing all power from a utility. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method of determining saving on utilities

Art Unit: 3628

with the technique of using savings of a cogeneration system because a "cogeneration system has a high energy use efficiency to provide the advantages of low energy cost, reduced contract demand and

leveled quantity of electricity" (Ishimaru col. 1, lines 53-56).

Claim 6:

Pak-Wah Oh, as shown discloses the following limitations:

a transmitter provided in the facility to transmit measured data of the power consumption volume

and the gas consumption volume, (Pak-Wah Or ¶ 0016),

ullet a receiver that receives to receive the data transmitted from the transmitter, (Pak-Wah Or \P

0016),

• wherein the estimation means comprises an estimation program carrying out the estimation for

each facility according to the received data at the receiver such that the estimation is available to

a user to use in determining whether to install the cogeneration system based on the estimated

cost of power and gas consumption for the situation after installing the cogeneration system (Pak-

Wah Or $\P\P$ 0020-0022 disclosing indicating cost savings and a recommendation for energy

saving installation).

Regarding the limitations:

a wattmeter provided in the facility to measure power consumption volume thereof while no

cogeneration system is installed in the facility,

a gas meter provided in the facility to measure gas consumption volume thereof while no

cogeneration system is installed in the facility.

Pak-Wah Or, in at least \P 0016, discloses analyzing energy consumption of a present facility before the

introduction of energy saving equipment, but does not specifically disclose a wattmeter or gas meter.

However, Ishimaru, in at least col. 8, lines 11-13 discloses a wattmeter, and col. 8, lines 19-21 discloses a

gas meter. It would have been obvious to one of ordinary skill in the art at the time of the invention to

Art Unit: 3628

combine the method of measuring energy usage with the technique of using wattmeters and gas meters in order to receive the specific energy readings needed.

Regarding the limitation:

• an estimation means for carrying out a cost estimation of a cost of power and gas consumption

for a situation after cogeneration system in the facility from the received data at the receiver.

Pak-Wah Or, in at least \P 0020 discloses the system may "indicate the cost savings and energy efficiency

that could be achieved by installing" energy saving equipment, but does not specifically disclose that

cogeneration equipment is the energy saving equipment. However, Ishimaru, in at least col. 2, line 45-col.

 $4, \ \text{line 4; col. 9, lines 30-42, disclose cost savings of using a cogenerator concerning electricity and gas}\\$

usage. In addition, Fukushima, in at least \P 0028 discloses determining a running cost of energy-saving

utilities (Examiner notes that while Fukushima uses the method of comparing a proposed facility to

existing facilities. Pak-Wah Or in ¶ 0016 discloses using the present consumption of the facility to

determine cost savings). Moreover, Johnson, in at least p. 207, ¶ 1, discloses comparing the cost of

installing a cogenerator versus purchasing all power from a utility. It would have been obvious to one of

ordinary skill in the art at the time of the invention to combine the method of determining saving on utilities

with the technique of using savings of a cogeneration system because a "cogeneration system has a high

energy use efficiency to provide the advantages of low energy cost, reduced contract demand and

leveled quantity of electricity" (Ishimaru col. 1, lines 53-56).

Claim 11:

Pak-Wah Oh, as shown discloses the following limitations:

transmitting measured data of the power consumption volume and the gas consumption volume

by a transmitter provided in the facility (Pak-Wah Or ¶ 0016),

receiving the data transmitted from the transmitter by a receiver (Pak-Wah Or ¶ 0016),

outputting the cost estimation result by an output means (Pak-Wah Or ¶ 0020 "cost savings"),

- wherein the output means outputs the cost estimation result in a browsable state (Pak-Wah Or \P

0020).

Application/Control Number: 10/577,143

Art Unit: 3628

Regarding the limitations:

· measuring power consumption volume in the facility by a wattmeter,

· measuring gas consumption volume in the facility by a gas meter,

Pak-Wah Or, in at least ¶ 0016, discloses analyzing energy consumption of a present facility before the

introduction of energy saving equipment, but does not specifically disclose a wattmeter or gas meter.

However, Ishimaru, in at least col. 8, lines 11-13 discloses a wattmeter, and col. 8, lines 19-21 discloses a

gas meter. It would have been obvious to one of ordinary skill in the art at the time of the invention to

combine the method of measuring energy usage with the technique of using wattmeters and gas meters

in order to receive the specific energy readings needed.

Regarding the limitation:

• estimating a cost after installing the cogeneration system in the facility by an estimation means

from the received data at the receiver.

Pak-Wah Or, in at least ¶ 0020 discloses the system may "indicate the cost savings and energy efficiency

that could be achieved by installing" energy saving equipment, but does not specifically disclose that

cogeneration equipment is the energy saving equipment. However, Ishimaru, in at least col. 2, line 45-col.

4, line 4; col. 9, lines 30-42, disclose cost savings of using a cogenerator concerning electricity and gas

usage. In addition, Fukushima, in at least ¶ 0028 discloses determining a running cost of energy-saving

utilities (Examiner notes that while Fukushima uses the method of comparing a proposed facility to

existing facilities, Pak-Wah Or in ¶ 0016 discloses using the present consumption of the facility to

determine cost savings). Moreover, Johnson, in at least p. 207, ¶ 1, discloses comparing the cost of

installing a cogenerator versus purchasing all power from a utility. It would have been obvious to one of

ordinary skill in the art at the time of the invention to combine the method of determining saving on utilities

with the technique of using savings of a cogeneration system because a "cogeneration system has a high

energy use efficiency to provide the advantages of low energy cost, reduced contract demand and

leveled quantity of electricity" (Ishimaru col. 1, lines 53-56).

Claim 16:

Art Unit: 3628

Pak-Wah Oh, as shown discloses the following limitations:

a transmitter provided in the facility to transmit measured data of the power consumption volume

and the gas consumption volume, (Pak-Wah Or ¶ 0016),

 \bullet a receiver that receives to receive the data transmitted from the transmitter, (Pak-Wah Or \P

0016),

· an output means to output the cost estimation result by the estimation means, wherein the

are capacitine to capacitine control and the c

estimation means comprises an estimation program carrying out the estimation for each facility

according to the received data at the receiver such that the estimation is available to a user to

use in determining whether to install the cogeneration system based on the

estimated cost of power and gas consumption for the situation after installing the cogeneration

system, (Pak-Wah Or ¶ 0020 "cost savings"),

the output means outputs the cost estimation result in a browsable state (Pak-Wah Or ¶ 0020).

Regarding the limitations:

· a wattmeter provided in the facility to measure power consumption volume thereof while no

cogeneration system is installed in the facility,

a gas meter provided in the facility to measure gas consumption volume thereof while no

cogeneration system is installed in the facility,

 ${\it Pak-Wah\ Or,\ in\ at\ least\ \P\ 0016,\ discloses\ analyzing\ energy\ consumption\ of\ a\ present\ facility\ before\ the}}$

introduction of energy saving equipment, but does not specifically disclose a wattmeter or gas meter.

However, Ishimaru, in at least col. 8, lines 11-13 discloses a wattmeter, and col. 8, lines 19-21 discloses a

gas meter. It would have been obvious to one of ordinary skill in the art at the time of the invention to

combine the method of measuring energy usage with the technique of using wattmeters and gas meters

in order to receive the specific energy readings needed.

Regarding the limitation:

an estimation means for estimating a cost of power and gas consumption in a situation after

installing cogeneration system in the facility from the received data at the receiver, and.

Art Unit: 3628

Pak-Wah Or, in at least ¶ 0020 discloses the system may "indicate the cost savings and energy efficiency that could be achieved by installing" energy saving equipment, but does not specifically disclose that cogeneration equipment is the energy saving equipment. However, Ishimaru, in at least col. 2, line 45-col. 4, line 4; col. 9, lines 30-42, disclose cost savings of using a cogenerator concerning electricity and gas usage. In addition, Fukushima, in at least ¶ 0028 discloses determining a running cost of energy-saving utilities (Examiner notes that while Fukushima uses the method of comparing a proposed facility to existing facilities, Pak-Wah Or in ¶ 0016 discloses using the present consumption of the facility to determine cost savings). Moreover, Johnson, in at least p. 207, ¶ 1, discloses comparing the cost of installing a cogenerator versus purchasing all power from a utility. It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method of determining saving on utilities with the technique of using savings of a cogeneration system because a "cogeneration system has a high energy use efficiency to provide the advantages of low energy cost, reduced contract demand and

Claim 2. 7:

leveled quantity of electricity" (Ishimaru col. 1, lines 53-56).

Pak-Wah Or/Ishimaru/Johnson/Fukushima, as shown above, discloses the limitations of claim 1, 6. In addition, Fukushima also discloses the following limitation(s):

 a step for carrying out a year-through cost estimation by a year-through cost estimation means from the result of the estimation by the estimation means (Fukushima ¶ 0028 "predetermined period").

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the method of saving on utilities with the technique of using a specific time period so the operator can understand the costs "for each of various cases based on the combination of the operating periods of the proposed energy-saving facilities" (Fukushima ¶ 0028).

Claim 12, 17:

Art Unit: 3628

Pak-Wah Or/Ishimaru/Johnson/Fukushima, as shown above, discloses the limitations of claim 11, 16. In

addition, Fukushima also discloses the following limitation(s):

• a step for carrying out a year-through cost estimation by a year-through cost estimation means

from the result of the estimation by the estimation means (Fukushima ¶ 0028 "predetermined

period").

· wherein the output means outputs a result of the year-through cost estimation in a browsable

state (Fukushima ¶ 0028).

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the

method of saving on utilities with the technique of using a specific time period so the operator can

understand the costs "for each of various cases based on the combination of the operating periods of the

proposed energy-saving facilities" (Fukushima \P 0028).

15. Claims 3, 8, 13, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pak-Wah

Or/Ishimaru/Johnson/Fukushima in view of Yoshinaga et al. (US 5,764,523).

Claim 3, 8, 13, 18:

Pak-Wah Or/Ishimaru/Johnson/Fukushima, as shown above, discloses the limitations of claim 1, 6, 11,

16. Pak-Wah Or/Ishimaru/Johnson/Fukushima does not specifically disclose the following limitation(s), but

Yoshinaga, does:

wherein the wattmeter is a single-phase two-wire type (Yoshinaga col. 17, lines 21-27).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include single-

phase two wire type wattmeter as taught by Yoshinaga (single-phase two wire type wattmeter) in the

system of Pak-Wah Or/Ishimaru/Johnson/Fukushima (wattmeter), since the claimed invention is merely a

combination of old elements, and in the combination each element merely would have performed the

same function as it did separately, and one of ordinary skill in the art would have recognized that the

results of the combination were predictable.

Art Unit: 3628

16. Claims 4, 9, 14, 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pak-Wah

Or/Ishimaru/Johnson/Fukushima in view of Hansell (US 5,528,233).

Claim 4, 9, 14, 19:

Pak-Wah Or/Ishimaru/Johnson/Fukushima, as shown above, discloses the limitations of claim 1, 6, 11,

 $16. \ Pak-Wah \ Or/lshimaru/Johnson/Fukushima \ does \ not \ specifically \ disclose \ the \ following \ limitation (s), \ but$

Hansell, does:

wherein the transmitter is a radio transmitter (Hansell col. 3, lines 51-60).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include a

single-phase two wire type wattmeter as taught by Hansell (radio transmission of meter data) in the

system of Pak-Wah Or/Ishimaru/Johnson/Fukushima (transmission of meter data), since the claimed

invention is merely a combination of old elements, and in the combination each element merely would

have performed the same function as it did separately, and one of ordinary skill in the art would have

recognized that the results of the combination were predictable.

17. Claims 5, 10, 15, 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pak-Wah

Or/Ishimaru/Johnson/Fukushima in view of Budike (US 6,311,105 B1).

Claim 5, 10, 15, 20:

Pak-Wah Or/Ishimaru/Johnson/Fukushima, as shown above, discloses the limitations of claim 1, 6, 11,

16. In addition, Pak-Wah Or discloses the following limitation:

by the transmitter, transmitting out the data received at the local receiver together with the data of

the gas consumption volume measured at the gas meter (Pak-Wah Or ¶ 0016).

Pak-Wah Or/Ishimaru/Johnson/Fukushima does not specifically disclose the following limitation(s), but

Budike, does:

wherein a local transmitter and a local receiver are provided in the facility in addition to the

transmitter (Budike col. 7, lines 5-11), further comprising

Art Unit: 3628

 locally transmitting the data of the power consumption volume measured at the wattmeter by the local transmitter (Budike col. 7, lines 5-11),

locally receiving the data transmitted from the local transmitter by the local receiver (Budike col.
 7, lines 5-11), and

It would have been obvious to one of ordinary skill in the art at the time of the invention to include local aggregation of data as taught by Budike (local aggregation of data) in the system of Pak-Wah Or/Ishimaru/Johnson/Fukushima (transmission of data), since the claimed invention is merely a combination of old elements, and in the combination each element merely would have performed the same function as it did separately, and one of ordinary skill in the art would have recognized that the results of the combination were predictable.

Art Unit: 3628

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from

the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date

of this final action and the advisory action is not mailed until after the end of the THREE-MONTH

shortened statutory period, then the shortened statutory period will expire on the date the advisory action

is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX

MONTHS from the mailing date of this final action.

Any inquiry of a general nature or relating to the status of this application or concerning this

communication or earlier communications from the Examiner should be directed to Kevin H. Flynn

whose telephone number is $\bf 571.270.3108$. The Examiner can normally be reached on Monday-Friday,

9:30am-5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the Examiner's

supervisor. John W. Haves can be reached at 571.272.6708.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be obtained from

either Private PAIR or Public PAIR. Status information for unpublished applications is available through

Private PAIR only. For more information about the PAIR system, see

http://portal.uspto.gov/external/portal/pair http://portal.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866.217.9197 (toll-

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Any response to this action should be mailed to:

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Art Unit: 3628

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/Kevin H. Flynn/ Examiner, Art Unit 3628 21 May 2009

/John W Hayes/ Supervisory Patent Examiner, Art Unit 3628